

10/760672

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STRUCTURE FILE UPDATES: 15 MAR 2006 HIGHEST RN 877033-93-7  
DICTIONARY FILE UPDATES: 15 MAR 2006 HIGHEST RN 877033-93-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

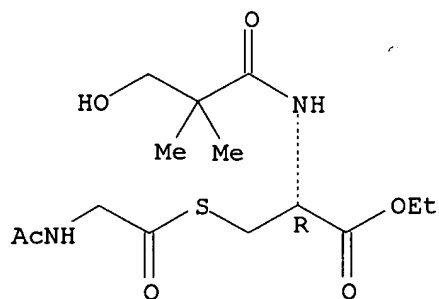
Structure search iteration limits have been increased. See HELP SLIMITS  
for details.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

L1 E SPM 4757/CN *selected*  
2 S E6-7  
L2 E "SP/W 4757"/CN 5 *Company*  
L3 2 S E1 OR E6  
4 S L1 OR L2 *what?* *- key terms*  
L3 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 316365-71-6 REGISTRY  
ED Entered STN: 24 Jan 2001  
CN L-Cysteine, N-(3-hydroxy-2,2-dimethyl-1-oxopropyl)-, ethyl ester,  
3-[(acetylamino)acetate] (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN SP/W 6373  
FS STEREOSEARCH  
MF C14 H24 N2 O6 S  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

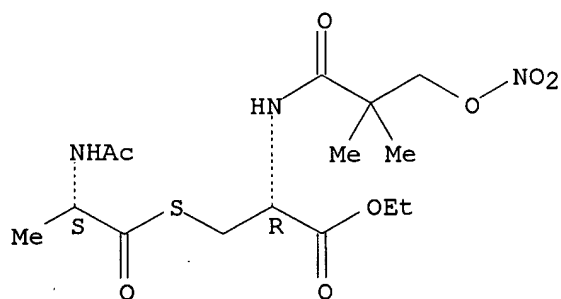
2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 139146-66-0 REGISTRY  
ED Entered STN: 21 Feb 1992  
CN L-Cysteine, N-[2,2-dimethyl-3-(nitrooxy)-1-oxopropyl]-, ethyl ester,  
ester with N-acetyl-L-alanine (9CI) (CA INDEX NAME)

OTHER NAMES:

CN **SPM 5185**  
FS STEREOSEARCH  
MF C15 H25 N3 O8 S  
SR CA  
LC STN Files: ADISINSIGHT, ADISNEWS, CA, CAPLUS, IMSDRUGNEWS,  
IMSRESEARCH, MEDLINE, PROUSDDR, TOXCENTER, USPATFULL

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

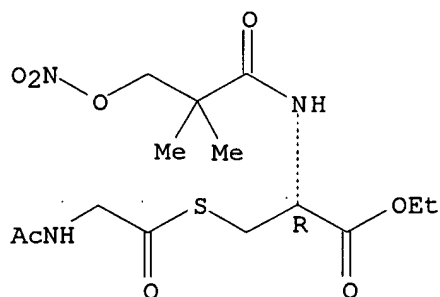
21 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 139146-65-9 REGISTRY  
ED Entered STN: 21 Feb 1992  
CN L-Cysteine, N-[2,2-dimethyl-3-(nitrooxy)-1-oxopropyl]-, ethyl ester,  
ester with N-acetyl-L-alanine (9CI) (CA INDEX NAME)  
OTHER NAMES:

10/760672

CN SP/W 5186  
CN **SPM 5186**  
FS STEREOSEARCH  
MF C14 H23 N3 O8 S  
SR CA  
LC STN Files: ADISINSIGHT, BIOSIS, CA, CAPLUS, CIN, PHAR, PROUSDDR,  
TOXCENTER, USPATFULL

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

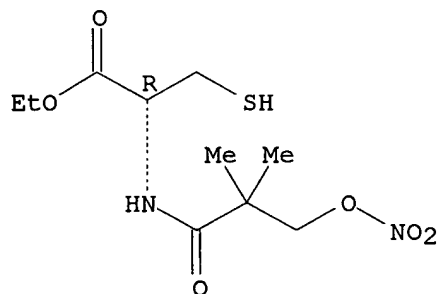
8 REFERENCES IN FILE CA (1907 TO DATE)  
8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 130432-17-6 REGISTRY  
ED ~~Entered STN~~ 16 Nov 1990  
CN L-Cysteine, N-[2,2-dimethyl-3-(nitrooxy)-1-oxopropyl]-, ethyl ester  
(9CI) (CA INDEX NAME)

OTHER NAMES:

CN **SP/W 3672**  
CN SPM 3672  
FS STEREOSEARCH  
MF C10 H18 N2 O6 S  
SR CA  
LC STN Files: BIOSIS, CA, CAPLUS, EMBASE, IMSRESEARCH, MEDLINE,  
PROUSDDR, TOXCENTER, USPATFULL

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

Searcher : Shears 571-272-2528

10/760672

20 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
20 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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FILE COVERS 1907 - 17 Mar 2006 VOL 144 ISS 13  
FILE LAST UPDATED: 16 Mar 2006 (20060316/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON ("SPM 5185"/CN OR "SPM 5186"/CN)  
L2 2 SEA FILE=REGISTRY ABB=ON PLU=ON "SP/W 3672"/CN OR "SP/W 6373"/CN  
L3 4 SEA FILE=REGISTRY ABB=ON PLU=ON L1 OR L2  
L4 39 SEA FILE=CAPLUS ABB=ON PLU=ON L3 OR SPM4757 OR SPM5186 OR SPM5185 OR SPM3672 OR SPM6373 OR SPW4757 OR SPW5186 OR SPW3672 OR SPW6373 OR (SPM OR SP(W)W OR SPW) (W) (4757 OR 5186 OR 5185 OR 3672 OR 6373)  
L5 3 SEA FILE=CAPLUS ABB=ON PLU=ON L4 AND (GASTROINTESTIN? OR ULCER? OR GASTR? INTESTIN?)

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN  
ED Entered STN: 21 Feb 2003

ACCESSION NUMBER: 2003:132965 CAPLUS

DOCUMENT NUMBER: 138:163603

TITLE: Methods for novel sulfur-containing organic nitrate compounds use in the treatment and prevention of human diseases and conditions

INVENTOR(S): Garvey, David S.; Letts, L. Gordon

PATENT ASSIGNEE(S): Nitromed, Inc., USA

SOURCE: PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2003013432 | A2   | 20030220 | WO 2002-US24923 | 20020807 |

Searcher : Shears 571-272-2528

APP

WO 2003013432            A3            20031113  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
 NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,  
 TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,  
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 CA 2453433            AA            20030220            CA 2002-2453433            20020807  
 EP 1414432            A2            20040506            EP 2002-786354            20020807  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
 PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK  
 JP 2005501060            T2            20050113            JP 2003-518446            20020807  
 US 2004152753            A1            20040805            US 2004-760672            20040121  
 PRIORITY APPLN. INFO.:            US 2001-311715P            P            20010810

WO 2002-US24923            W            20020807

OTHER SOURCE(S):            MARPAT 138:163603

AB The invention describes methods of use for an organic nitrate compound, or a pharmaceutically acceptable salt thereof, wherein the organic nitrate compound comprises at least one sulfur atom and/or at least one disulfide group. The invention also provides methods for treating, preventing and/or reducing inflammation, pain, and fever; for decreasing or reversing the **gastrointestinal**, renal and other toxicities resulting from the use of nonsteroidal antiinflammatory compds.; for treating and/or preventing **gastrointestinal** disorders; for treating inflammatory disease states and disorders; for treating and/or preventing ophthalmic diseases or disorders; for treating and/or improving the **gastrointestinal** properties of COX-2 inhibitors; for facilitating wound healing; for treating and/or preventing other disorders resulting from elevated levels of cyclooxygenase-2; for decreasing the recurrence of **ulcers**; for improving gastroprotective properties, anti-Helicobacter pylori properties or antacid properties of proton pump inhibitors; for treating Helicobacter pylori and viral infections. For improving gastroprotective properties of H<sub>2</sub> receptor antagonists; for treating and/or preventing inflammations and microbial infections, multiple sclerosis, and viral infections; for treating or preventing restenosis, autoimmune diseases, pathol. conditions resulting from abnormal cell proliferation, polycystic kidney disease, inflammatory diseases or to inhibit wound contraction; for treating or preventing sexual dysfunctions in males and females, for enhancing sexual responses in males and females; for treating or preventing benign prostatic hyperplasia, hypertension, congestive heart failure, variant (Prinzmetal) angina, glaucoma, neurodegenerative disorders, vasospastic diseases, cognitive disorders, urge incontinence, and overactive bladder; for reversing the state of anesthesia. For treating or preventing diseases induced by the increased metabolism of cyclic guanosine 3',5'-monophosphate (cGMP); for treating respiratory disorders and for treating neurol. conditions.

IT 130432-17-6, SPM 3672 139146-65-9

, SPM 5186 139146-66-0, SPM

5185

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

10/760672

(Biological study); USES (Uses)

(methods for novel sulfur-containing organic nitrate compds. use in the treatment and prevention of human diseases and conditions)

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 14 Nov 2002

ACCESSION NUMBER: 2002:864914 CAPLUS

DOCUMENT NUMBER: 138:395694

TITLE: NO-donors (VII [1]): synthesis and cyclooxygenase inhibitory properties of N- and S-nitrooxypivaloyl-cysteine derivatives of naproxen - a novel type of NO-NSAID

AUTHOR(S): Kartasasmita, Rahmana E.; Laufer, Stefan; Lehmann, Jochen

CORPORATE SOURCE: Institute of Pharmacy, University of Bonn, Bonn, D-53121, Germany

SOURCE: Archiv der Pharmazie (Weinheim, Germany) (2002), 335(8), 363-366

CODEN: ARPMAS; ISSN: 0365-6233

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Nitric oxide (NO) has been reported to subserve many of the same mucosal protection mechanisms as prostaglandins and is sufficient for acute gastroprotection and **ulcer** healing. In fact, NO-donating NSAID hybrid compds. such as the nitrooxybutyl ester of naproxen show reduced **ulcerogenic** activity while maintaining anti-inflammatory activity. We introduce two prototypes of novel triple-hybrid compds. consisting of cysteine which is known to enhance the activity of organic nitrates and to reduce nitrate tolerance, an NSAID (naproxen), and an organic nitrate (nitrooxypivaloic acid). L-Cysteine Et ester first was N-acylated in a CH<sub>2</sub>Cl<sub>2</sub>/H<sub>2</sub>O two-phase system using the acid chlorides of naproxen or nitrooxypivaloic acid, resp., and sodium acetate, or alternatively using the DCC-activated nitrooxy acid in absolute CH<sub>2</sub>Cl<sub>2</sub>. The N-acylated intermediates were subsequently S-acylated using the acid chlorides or alternatively the carbonyldiimidazole (CDI)-activated acids again. The two naproxen-cysteine-nitrate hybrid prodrugs were screened in vitro for their cyclooxygenase inhibitory properties relative to naproxen. In this screening the N-nitrooxyacylcysteine derivative was found to be inactive in the concentration range of 0.1-10 µmol/L against both COX-1 and COX-2, while the S-nitrooxyacylcysteine derivative had only weak activity against COX-1.

IT 130432-17-6P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(synthesis and cyclooxygenase inhibitory properties of novel

NO-NSAID nitrooxypivaloyl-cysteine derivs. of naproxen)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 09 Nov 2000

ACCESSION NUMBER: 2000:785898 CAPLUS

DOCUMENT NUMBER: 133:329627

TITLE: Tetracyclic cGMP-specific phosphodiesterase inhibitors and their use in disease treatment

INVENTOR(S): Daugan, Alain Claude Marie; Gellibert, Françoise

Searcher : Shears 571-272-2528

*Anders*  
AP-3

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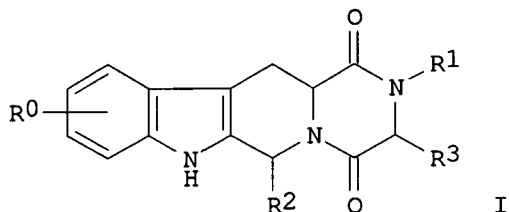
PATENT ASSIGNEE(S): Icos Corp., USA  
 SOURCE: U.S., 30 pp., Cont.-in-part of PCT 9519978.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE        |
|---|------|----------|-----------------|-------------|
| <u>US 6143746</u>   | A    | 20001107 | US 1998-154051  | 19980916    |
| <u>WO 9519978</u>   | A1   | 19950727 | WO 1995-EP183   | 19950119    |
| W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US |      |          |                 |             |
| RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG  |      |          |                 |             |
| WO 9703675  | A1   | 19970206 | WO 1996-EP3024  | 19960711    |
| W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG |      |          |                 |             |
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| WO 9703985  | A1   | 19970206 | WO 1996-EP3025  | 19960711    |
| W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG |      |          |                 |             |
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| US 6025494  | A    | 20000215 | US 1998-133078  | 19980812    |
| CA 2340636  | AA   | 20000323 | CA 1999-2340636 | 19990826    |
| EP 1113800  | A1   | 20010711 | EP 1999-945201  | 19990826    |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO   |      |          |                 |             |
| JP 2002524516   | T2   | 20020806 | JP 2000-569812  | 19990826    |
| <u>US 6127542</u>   | A    | 20001003 | US 1999-399667  | 19990921    |
| <u>US 6369059</u>   | B1   | 20020409 | US 2000-633431  | 20000807    |
| <u>CZ 289832</u>  | B6   | 20020417 | CZ 2000-3428    | 20000919    |
| <u>US 2002119976</u>  | A1   | 20020829 | US 2002-68114   | 20020205    |
| <u>US 6784179</u>   | B2   | 20040831 |                 |             |
| <u>JP 2004217674</u>  | A2   | 20040805 | JP 2004-125881  | 20040421    |
| PRIORITY APPLN. INFO.:  |      |          | GB 1994-1090    | A 19940121  |
|   |      |          | WO 1995-EP183   | A2 19950119 |
|   |      |          | GB 1995-14464   | A 19950714  |
|   |      |          | GB 1995-14465   | A 19950714  |
|   |      |          | WO 1996-EP3024  | A2 19960711 |
|   |      |          | WO 1996-EP3025  | A2 19960711 |
|   |      |          | JP 1995-519339  | A3 19950119 |

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|                 |             |
|-----------------|-------------|
| CZ 1998-33      | A3 19960711 |
| US 1996-669389  | A3 19960716 |
| US 1998-133078  | A1 19980812 |
| US 1998-154051  | A 19980916  |
| WO 1999-US19466 | W 19990826  |
| US 1999-399667  | A1 19990921 |
| US 2000-633431  | A1 20000807 |

OTHER SOURCE(S): MARPAT 133:329627  
GI



AB A compound of formula I (R0 = H, halogen, C1-6 alkyl; R1 = H, C1-6 alkyl, C2-6 alkenyl, C2-6 alkynyl, halo-C1-6 alkyl, C3-8 cycloalkyl, C3-8 cycloalkyl-C1-3 alkyl, aryl-C1-3 alkyl, heteroaryl-C1-3 alkyl; R2 = (substituted) monocyclic aromatic ring selected from benzene, thiophene, furan, and pyridine, or (substituted) bicyclic ring (a) attached to the rest of the mol. via one of the benzene ring carbon atoms, and wherein the fused ring is a 5- or 6-membered ring which may be saturated or partially or fully unsatd., and comprises carbon atoms and optionally one or two heteroatoms selected from oxygen, sulfur, and nitrogen; R3 = H, C1-3 alkyl, or R1 and R3 together = 3- or 4-membered alkyl or alkenyl chain) and salts and solvates thereof is disclosed. Compound I is a potent and selective inhibitor of cyclic guanosine 3',5'-monophosphate-specific phosphodiesterase, having a utility in a variety of therapeutic areas where such inhibition is beneficial, including the treatment of cardiovascular disorders and erectile dysfunction. Thus, many I compds. were synthesized and tested in vitro as inhibitors of cGMP phosphodiesterase. Cis-2,3,6,7,12,12a-hexahydro-2-(4-pyridylmethyl)-6-(3,4-methylenedioxyphenyl)pyrazino[2',1':6,1]pyrido[3,4-b]indole-1,4-dione showed IC50 of 10 nM.

IT 130432-17-6 SPM 3672 Form II  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(drug containing phosphodiesterase inhibitor and; tetracyclic cyclic GMP-specific phosphodiesterase inhibitors and their use in disease treatment)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

FILE 'MEDLINE' ENTERED AT 14:29:43 ON 17 MAR 2006

Searcher : Shears 571-272-2528

Cl 1  
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Comm  
col. 9  
1. 35  
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FILE 'JAPIO' ENTERED AT 14:29:43 ON 17 MAR 2006  
COPYRIGHT (C) 2006 Japanese Patent Office (JPO)- JAPIO

L6 0 S L5

(FILE 'CAPLUS' ENTERED AT 14:30:07 ON 17 MAR 2006)  
L7 9 SEA FILE=CAPLUS ABB=ON PLU=ON (NITRATOPIVAL? OR NITRATO  
PIVAL?) (S) ESTER  
L8 0 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND (GASTROINTESTIN? OR  
ULCER? OR GASTR? INTESTIN?)

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,  
JICST-EPLUS, JAPIO' ENTERED AT 14:31:13 ON 17 MAR 2006)  
L10 56 S L7(S) (ET OR ETHYL)  
L11 4 S L10 AND (GASTROINTESTIN? OR ULCER? OR GASTR? INTESTIN?)  
L12 4 DUP REM L11 (0 DUPLICATES REMOVED)

L12 ANSWER 1 OF 4 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN  
ACCESSION NUMBER: 2000-271365 [23] WPIDS  
DOC. NO. CPI: C2000-082857  
TITLE: New carboline derivatives, useful for treatment of  
e.g. erectile dysfunction, angina, hypertension,  
congestive heart failure, stroke, ulcers  
and dysmenorrhea, are cGMP (cyclic guanosine  
monophosphate)-specific phosphodiesterase inhibitors.  
DERWENT CLASS: B02 C02  
INVENTOR(S): BOMBRUN, A; GELLIBERT, F  
PATENT ASSIGNEE(S): (ICOS-N) ICOS CORP; (BOMB-I) BOMBRUN A  
COUNTRY COUNT: 83  
PATENT INFORMATION:

| PATENT NO  | KIND | DATE     | WEEK      | LA | PG |
|--|------|----------|-----------|----|----|
| WO 2000015639  | A1   | 20000323 | (200023)* | EN | 86 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW<br>NL OA PT SD SE SZ UG ZW  |      |          |           |    |    |
| W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB<br>GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV<br>MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR<br>TT UA UG US UZ VN YU ZW |      |          |           |    |    |
| AU 9910258   | A    | 20000403 | (200034)  |    |    |

Searcher : Shears 571-272-2528

10/760672

BR 9816018 A 20010605 (200138)  
 EP 1114048 A1 20010711 (200140) EN  
 R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
 JP 2002524564 W 20020806 (200266) 75  
 US 6462047 B1 20021008 (200269)

APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION    | DATE                |
|---------------|------|----------------|---------------------|
| WO 2000015639 | A1   | WO 1998-EP6050 | 19980916            |
| AU 9910258    | A    | WO 1998-EP6050 | 19980916            |
|               |      | AU 1999-10258  | 19980916            |
| BR 9816018    | A    | BR 1998-16018  | 19980916            |
|               |      | WO 1998-EP6050 | 19980916            |
| EP 1114048    | A1   | EP 1998-952629 | 19980916            |
|               |      | WO 1998-EP6050 | 19980916            |
| JP 2002524564 | W    | WO 1998-EP6050 | 19980916            |
|               |      | JP 2000-570177 | 19980916            |
| US 6462047    | B1   | WO 1998-EP6050 | 19980916            |
|               |      | US 2001-744859 | <del>20010516</del> |

FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO     |
|---------------|-------------|---------------|
| AU 9910258    | A Based on  | WO 2000015639 |
| BR 9816018    | A Based on  | WO 2000015639 |
| EP 1114048    | A1 Based on | WO 2000015639 |
| JP 2002524564 | W Based on  | WO 2000015639 |
| US 6462047    | B1 Based on | WO 2000015639 |

PRIORITY APPLN. INFO: WO 1998-EP6050 19980916

AN 2000-271365 [23] WPIDS

AB WO 200015639 A UPAB: 20000516

NOVELTY - Carboline derivatives (I), their salts and solvates, are new.

DETAILED DESCRIPTION - Carboline derivatives of formula (I), their salts and solvates, are new.

A = 5 - 6 membered heteroaryl group containing at least 1 heteroatom selected from O, N and S;

R0 = H or halogen;

R1 = H, nitro, trifluoromethyl, trifluoromethoxy, halogen, cyano, 5 - 6 membered heteroaryl group containing at least 1 heteroatom selected from O, N and S, (optionally substituted by C(O)ORa or 1-4C alkyl), 1-6C alkyl optionally substituted by ORa, 1-3C alkoxy, C(O)Ra, OC(O)Ra, C(O)Ra, (1-4C alkylene)-Het, (1-4C alkylene)-C(O)ORa, O-(1-4C alkylene)-C(O)ORa, (1-4C alkylene)-O-(1-4C alkylene)-C(O)ORa, C(O)NRaSO2Rc, C(O)-(1-4C alkylene)-Het, (1-4C alkylene)-NRaRb, (2-6C alkylene)-NRaRb, C(O)NRaRb, C(O)RaRc, C(O)NRa-(1-4C alkylene)-ORb, C(O)NRa-(1-4C alkylene)-Het, ORa, O-(2-4C alkylene)-NRaRb, O-(1-4C alkylene)-Het, O-(2-4C alkylene)-ORa, O-(2-4C alkylene)-NRaC(O)ORb, NRaRb, NRa-(1-4C alkylene)-NRaRb, NRaC(O)Rb, NRaC(O)NRaRb, N(SO2-(1-4C alkyl))2, NRa(SO2-(1-4C alkyl), SO2NRaRb or OSO2CF3;

R2 = H, halogen, ORa, 1-6C alkyl, nitro or NRaRb; or

R1 + R2 = 3 or 4 membered alkylene or alkenylene chain, optionally containing at least 1 heteroatom component of a 5 or 6 membered ring;

R3 = H, halogen, NO2, trifluoromethoxy, 1-6C alkyl, O-(1-6C

Searcher : Shears 571-272-2528

alkyl), or C(O)ORa;

R4 = H; or

R3 + R4 = 3 or 4 membered alkylene or alkenylene chain component of a 5 or 6 membered ring, optionally containing at least 1 heteroatom;

Het = 5 or 6 membered heterocyclic group containing at least 1 O, N and/or S, and is optionally substituted by 1-4C alkyl;

Ra, Rb = H or 1-6C alkyl;

Rc = phenyl or 4-6C cycloalkyl, both optionally substituted by 1 or more halogen, C(O)ORa or ORa;

n = 1 - 3; and

m = 1 or 2.

INDEPENDENT CLAIMS are provided for:

(1) a composition comprising (I) and a second active agent for simultaneous, separate or sequential use; and

(2) a process for the preparation of (I).

ACTIVITY - Vasotropic; centrally active; endocrine; antianginal; hypotensive; respiratory; cytostatic; cardiant; nephrotropic; antiarteriosclerotic; antiaggregant; hemostatic; antiinflammatory; cerebroprotective; antiasthmatic; ophthalmological; antiulcer; gastrointestinal; osteopathic; tocolytic; gynecological; analgesic (all claimed)

MECHANISM OF ACTION - Phosphodiesterase V inhibitor; acetylcholine esterase inhibitor; neutral endopeptidase inhibitor; adrenergic antagonist.

(I) were administered to spontaneously hypertensive rats at 5 mg/kg in 5% DMF and 95% olive oil. Blood pressure was measured using a catheter in the carotid artery and recorded for 5 hours post administration. The area under curve for (E)-1R-1-(1-(2,3-dihydrobenzofuran-5-yl)-2,3,4,9-tetrahydro- beta -carbolin-2-yl)-3-(pyrrolidin-1-yl)-propen-1-one (Ia) was 9 mm Hg/hour.

USE - As cGMP (cyclic guanosine monophosphate)-specific phosphodiesterase inhibitors for treatment of erectile dysfunction, angina, hypertension, pulmonary or malignant hypertension, COPD (chronic obstructive pulmonary disease), pheochromocytoma, ARDS (not defined), congestive heart failure, renal failure, atherosclerosis, reduced blood vessel patency, peripheral vascular disease, vascular disorder, thrombocytopenia, inflammatory disease, myocardial infarction, stroke, bronchitis, asthma, allergic rhinitis, glaucoma, peptic ulcer, gut motility disorder, post-percutaneous transluminal coronary angioplasty, carotid angioplasty, post-surgical graft stenosis, osteoporosis, pre-term labor, benign prostatic hypertrophy, female sexual dysfunction, dysmenorrhea and IBS (irritable bowel syndrome) (claimed).

ADVANTAGE - Good oral bioavailability, specific for phosphodiesterase 5.  
Dwg. 0/0

L12 ANSWER 2 OF 4 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN  
ACCESSION NUMBER: 2000-271237 [23] WPIDS  
CROSS REFERENCE: 1995-275237 [36]; 1997-132562 [12]; 2001-023419 [03]  
DOC. NO. CPI: C2000-082747  
TITLE: Composition for simultaneous, separate, or sequential use in the treatment of e.g. erectile dysfunction, comprises a tetracyclic phosphodiesterase inhibitor and a second active agent, e.g. vasodilator, acetylcholine esterase inhibitor.  
DERWENT CLASS: B05  
INVENTOR(S): DAUGAN, A C; GELLIBERT, F

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PATENT ASSIGNEE(S): (ICOS-N) ICOS CORP  
 COUNTRY COUNT: 87  
 PATENT INFORMATION:

| PATENT NO  | KIND | DATE     | WEEK      | LA | PG |
|--|------|----------|-----------|----|----|
| WO 2000015228  | A1   | 20000323 | (200023)* | EN | 89 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW<br>NL OA PT SD SE SL SZ UG ZW   |      |          |           |    |    |
| W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES<br>FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR<br>LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK<br>SL TJ TM TR TT UA UG UZ VN YU ZA ZW |      |          |           |    |    |
| AU 9957856   | A    | 20000403 | (200034)  |    |    |
| BR 9913824   | A    | 20010619 | (200140)  |    |    |
| EP 1113800   | A1   | 20010711 | (200140)  | EN |    |
| R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL<br>PT RO SE SI   |      |          |           |    |    |
| JP 2002524516  | W    | 20020806 | (200266)  |    | 84 |

## APPLICATION DETAILS:

| PATENT NO     | KIND | APPLICATION     | DATE     |
|---------------|------|-----------------|----------|
| WO 2000015228 | A1   | WO 1999-US19466 | 19990826 |
| AU 9957856    | A    | AU 1999-57856   | 19990826 |
| BR 9913824    | A    | BR 1999-13824   | 19990826 |
|               |      | WO 1999-US19466 | 19990826 |
| EP 1113800    | A1   | EP 1999-945201  | 19990826 |
|               |      | WO 1999-US19466 | 19990826 |
| JP 2002524516 | W    | WO 1999-US19466 | 19990826 |
|               |      | JP 2000-569812  | 19990826 |

## FILING DETAILS:

| PATENT NO     | KIND        | PATENT NO     |
|---------------|-------------|---------------|
| AU 9957856    | A Based on  | WO 2000015228 |
| BR 9913824    | A Based on  | WO 2000015228 |
| EP 1113800    | A1 Based on | WO 2000015228 |
| JP 2002524516 | W Based on  | WO 2000015228 |

PRIORITY APPLN. INFO: US 1998-154051 19980916  
 AN 2000-271237 [23] WPIDS  
 CR 1995-275237 [36]; 1997-132562 [12]; 2001-023419 [03]  
 AB WO 200015228 A UPAB: 20021014

NOVELTY - A composition for the simultaneous, separate or sequential use in the treatment of a condition by inhibition of a cGMP specific phosphodiesterase, comprises a tetracyclic compound (I) and a second therapeutically active agent.

DETAILED DESCRIPTION - A composition for the simultaneous, separate or sequential use in the treatment of a condition by inhibition of a cGMP specific phosphodiesterase, comprises a tetracyclic compound of formula (I), and salts and solvates, and a second therapeutically active agent.

R0 = H, halogen or 1-6C alkyl;

R1 = H, 1-6C alkyl, 2-6C alkenyl, 2-6C alkynyl, halo-(1-6C)-alkyl, 3-8C cycloalkyl, 3-8C cycloalkyl-(1-3C)-alkyl, aryl-(1-3C)-alkyl or heteroaryl-(1-3C)-alkyl;

R2 = optionally substituted monocyclic aromatic ring selected from benzene, thiophene, furan, pyridine or an optionally substituted bicyclic ring of formula (i), attached to the rest of the molecule via one of the benzene C atoms;

A = 5 - 6 membered ring optionally containing 1 - 2 O, S and or N; and

R3 = H or 1-3C alkyl; or

R1 + R2 = 3-4C alkyl or 3-4C alkenyl.

ACTIVITY - Vasodilator; antianginal; hypotensive; respiratory; antiatherosclerotic; cardiant; vasotropic; hemostatic; antiinflammatory; cerebroprotective; antiasthmatic; antiallergic; ophthalmological; antiulcer; cytostatic; gastrointestinal, CNS active; endocrine.

MECHANISM OF ACTION - Phosphodiesterase inhibitor.

cGMP-PDE (cyclic GMP dependent phosphodiesterase) activity was measured using a one-step assay adapted from Wells et al., Biochim. Biophys. Acta, 384, 430 (1975). The reaction medium contained 50 mM Tris-HCl, pH 7.5, 5 mM magnesium acetate, 250 micro g/ml 5'-nucleotidase, 1 mM EGTA (ethylenbis(oxyethylenenitrolo)tetraacetic acid and 0.15 micro M 8-(H3)-cGMP. The enzyme used was human recombinant PDE-5. (I) were dissolved in DMSO (dimethylsulfoxide) finally present at 2 % in the assay. The incubation time was 30 minutes during which the total substrate conversion did not exceed 30 %. Cis-2,3,6,7,12,12a-hexahydro-6-(2,3-dihydrobenzo(b)-furan-5-yl)-2-methylpyrazine(2',1':6,1)pyrido(3,4-b)indole-1,4-dione (Ia) had an IC50 of less than 10 nM.

USE - The composition is used to treat stable angina, unstable angina, variant angina, hypertension, pulmonary hypertension, chronic obstructive pulmonary disease, malignant hypertension, pheochromocytoma, congestive heart failure, acute respiratory distress syndrome, acute renal failure, chronic renal failure, atherosclerosis, a condition of reduced blood vessel patency, postpercutaneous transluminal coronary angioplasty, carotid angioplasty, myocardial infarction, post-bypass surgery graft stenosis, a peripheral vascular disease, a vascular disorder, Raynaud's disease, thrombocythemia, an inflammatory disease, stroke, bronchitis, chronic asthma, allergic asthma, allergic rhinitis, glaucoma, peptic ulcer, osteoporosis, preterm labor, benign prostatic hypertrophy, a gut motility disorder, irritable bowel syndrome or male or female mammalian erectile dysfunction, preferably erectile dysfunction, especially human erectile dysfunction (claimed).

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L12 ANSWER 3 OF 4 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2001-023419 [03] WPIDS  
 CROSS REFERENCE: 1995-275237 [36]; 1997-132562 [12]; 2000-271237 [23]  
 DOC. NO. CPI: C2001-007100  
 TITLE: Use of hexahydro-pyrazino-pyrido-indole-dione derivative and another drug for treatment of conditions benefiting from cGMP-specific phosphodiesterase inhibition e.g. erectile dysfunction.  
 DERWENT CLASS: B05 C03  
 INVENTOR(S): DAUGAN, A C; GELLIBERT, F  
 PATENT ASSIGNEE(S): (ICOS-N) ICOS CORP  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
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|-----------|------|------|------|----|----|

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|----------|---|--------|--------------|

| PATENT NO         | KIND     | APPLICATION    | DATE     |
|-------------------|----------|----------------|----------|
| <u>US 6143746</u> | A CIP of | WO 1995-EP183  | 19950119 |
|                   |          | US 1998-154051 | 19980916 |

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AN 2001-023419 [03] WPIDS  
CR 1995-275237 [36]; 1997-132562 [12]; 2000-271237 [23]  
AB US 6143746 A UPAB: 20010116

USE - The combination is especially useful for treating conditions where inhibition of PDE5 is of therapeutic benefit, in humans or nonhuman animals, especially erectile dysfunction, stable angina, unstable angina, variant angina, hypertension, pulmonary hypertension, chronic obstructive pulmonary disease, acute respiratory distress syndrome, malignant hypertension, pheochromocytoma, congestive heart failure, acute renal failure, chronic renal failure, atherosclerosis, a condition of reduced blood vessel patency, peripheral vascular disease, a vascular disorder, thrombocythemia, inflammatory disease, myocardial infarction, stroke, bronchitis, chronic asthma, allergic asthma, allergic rhinitis, glaucoma, peptic **ulcer**, gut motility disorders, post-percutaneous transluminal coronary or carotid angioplasty, post-bypass surgery graft stenosis, osteoporosis, preterm labor, benign prostatic hypertrophy or irritable

bowel syndrome.  
Dwg.0/0

L12 ANSWER 4 OF 4 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2000-282560 [24] WPIDS  
 CROSS REFERENCE: 1998-076777 [07]  
 DOC. NO. CPI: C2000-085192  
 TITLE: Combinations comprising carboline derivatives and  
 second therapeutic agent for simultaneous, separate  
 or sequential treatment of conditions where  
 inhibition of cGMP-specific PDE is of therapeutic  
 benefit.  
 DERWENT CLASS: B02  
 INVENTOR(S): BOMBRUN, A  
 PATENT ASSIGNEE(S): (ICOS-N) ICOS CORP  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

| PATENT NO  | KIND | DATE     | WEEK      | LA | PG |
|------------|------|----------|-----------|----|----|
| US 6043252 | A    | 20000328 | (200024)* |    | 40 |

## APPLICATION DETAILS:

| PATENT NO  | KIND | APPLICATION    | DATE     |
|------------|------|----------------|----------|
| US 6043252 | A    | CIP of         |          |
|            |      | WO 1997-EP2277 | 19970505 |
|            |      | US 1998-154052 | 19980916 |

PRIORITY APPLN. INFO: US 1998-154052 19980916; WO  
 1997-EP2277 19970505

AN 2000-282560 [24] WPIDS  
 CR 1998-076777 [07]  
 AB US 6043252 A UPAB: 20000522

## NOVELTY - Combinations comprising:

(a) carboline derivatives and their salts and solvates; and  
 (b) second therapeutically active agent, for simultaneous,  
 separate or sequential use in the treatment of conditions where  
 inhibition of a cyclic-guanylic acid (cGMP)-specific phosphodiesterase  
 (PDE) is of therapeutic benefit.

DETAILED DESCRIPTION - Carboline derivatives in the combination  
 are of formula (I):

R0 = H or halo;

R1 = H, nitro, trifluoromethyl, trifluoromethoxy, halo, cyano,  
 5-6-membered heterocyclic group containing at least one heteroatom  
 chosen from O, S and N optionally substituted by C(=O)ORa or 1-4C  
 alkyl, 1-6C alkyl optionally substituted by ORa, 1-3C alkoxy, C(=O)Ra,  
 OC(=O)Ra, C(=O)ORa, 1-4C alkylene-C(=O)ORa, O-(1-4C)  
 alkylene-C(=O)ORa, 1-4C alkylene-O-(1-4C) alkylene-C(=O)ORa,  
 C(=O)NRaSO2Rc, C(=O)-(1-4C) alkylene-Het, 1-4C alkylene-NRaRb, 2-6C  
 alkenylene-NRaRb, C(=O)NRaRb, C(=O)NRaRc, C(=O)NRa-(1-4C)  
 alkylene-ORb, C(=O)NRa-(1-4C) alkylene-Het, ORa O-(2-4C)  
 alkylene-NRaRb, O-(1-4C) alkylene-CH(ORa) CH2NRaRb, O-(1-4C)  
 alkylene-Het, O-(2-4C) alkylene-ORa, O-(2-4C) alkylene-NRa-C(=O)ORb,  
 NRaRb, NRa-(1-4C) alkylene-NRaRb, NRaC(=O)Rb, NRaC(=O)NRaRb,  
 N-(SO2-(1-4C) alkyl)2, NRa(SO2-1(1-4C) alkyl), SO2NRaRb or  
 OSO2-trifluoromethyl;

R2 = H, halo, ORa, 1-6C alkyl, NO2, NRaRb; or

*Same  
App's  
1/2 of 4*

R1+R2 = 3-4-membered alkylene or alkenylene chain component of a 5-6-membered ring optionally containing at least one heteroatom chosen from O, S or N;

R3 = H, halo, nitro, trifluoromethoxy, 1-6C alkyl or C(=O)ORa;

R4 = H; or

R3+R4 = 3-4-membered alkylene or alkenylene chain component of a 5-6-membered ring optionally containing at least one heteroatom;

Het = 5-6-membered heterocyclic ring containing at least one heteroatom chosen from O, S or N and optionally substituted by 1-4C alkyl;

Ra, Rb = H or 1-6C alkyl;

Rc = phenyl or 4-6C cycloalkyl optionally substituted by one or more of halo, one or more of C(=O)ORa or one or more of ORa;

n = 1-3; and

m = 1-2.

ACTIVITY - Antianginal, Hypotensive; Cardiant; Antiarteriosclerotic; Antiinflammatory; Cerebroprotective; Antiasthmatic; Antiallergic; Antiulcer; Osteopathic; Cytostatic; Vasotropic.

The hypotensive effects of 17 test compounds (I) were examined in conscious spontaneously hypertensive rats (SHR). The compounds were administered at doses of 5 mg/kg in a mixture of 5% dimethylformamide and 95% olive oil. Blood pressure was measured from a catheter inserted in the carotid artery and recorded for 5 hours after administration. The results were expressed as area-under-the-curve (AUC 0-5) (mmHg/hour) of the fall in blood pressure over time. The results ranged from 52-128 mmHg/hour.

MECHANISM OF ACTION - cGMP-specific PDE inhibitor; vasodilator; alpha -adrenergic blocker; mixed alpha , beta -blocker; alpha 2-adrenergic blocker; ACE inhibitor; NEP inhibitor; centrally acting dopaminergic agent; calcium channel blocker; diuretic.

Test compounds (I) were tested for cGMP-PDE activity using a one-step assay Wells et al. Biochim Biophys Acta 1975; 384: 430 and human recombinant PDE5. The test compounds were dissolved in dimethylsulfoxide finally present at 2% in the assay. The incubation period was 30 minutes, during which the total substrate conversion did not exceed 30%. The IC50 values were determined and ranged from 2-72 nM.

USE - The combinations are used for simultaneous, separate or sequential treatment of conditions where inhibition of cGMP-specific PDE is of therapeutic benefit including stable angina, unstable angina, variant angina, hypertension, pulmonary hypertension, chronic obstructive pulmonary disease, malignant hypertension, pheochromocytoma, congestive heart failure, acute respiratory distress syndrome, acute renal failure, chronic renal failure, atherosclerosis, conditions of reduced blood vessel patency, post-percutaneous transluminal coronary angioplasty, carotid angioplasty, myocardial infarction, post-bypass surgery graft stenosis, peripheral vascular disease, vascular disorders, Raynaud's disease, thrombocythemia, inflammatory disease, stroke, bronchitis, chronic asthma, allergic asthma, allergic rhinitis, glaucoma, peptic ulcer, osteoporosis, pre-term labor, benign prostatic hypertrophy, gut motility disorder or irritable bowel syndrome, or erectile dysfunction in male or female animals (claimed).

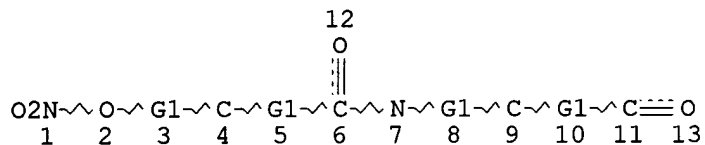
Dwg.0/0

FILE 'HOME' ENTERED AT 14:32:20 ON 17 MAR 2006



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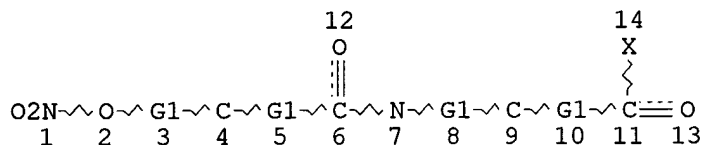
=> d que stat l4; d his ful  
L1 STR



REP G1=(0-10) CH2  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE  
L2 113 SEA FILE=REGISTRY SSS FUL L1  
L3 STR



REP G1=(0-10) CH2  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE  
L4 0 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

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L1 STR  
L2 113 SEA SSS FUL L1  
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L3 STR L1  
L4 0 SEA SUB=L2 SSS FUL L3

FILE 'REGISTRY' ENTERED AT 16:55:36 ON 16 MAR 2006  
D QUE STAT

FILE 'CAPLUS' ENTERED AT 16:55:44 ON 16 MAR 2006

Searcher : Shears 571-272-2528

10/760672

L5 46 SEA ABB=ON PLU=ON L2  
L6 4 SEA ABB=ON PLU=ON L5 AND (ULCER? OR GASTROINTESTIN? OR  
GASTR? INTESTIN?)  
SEL HIT L6 1-4 RN  
DEL SEL Y  
L7 0 SEA ABB=ON PLU=ON L6 NOT (PY=>2001 OR PD=>20010810)

FILE 'HOME' ENTERED AT 17:08:13 ON 16 MAR 2006  
D QUE STAT L4

#### FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 15 MAR 2006 HIGHEST RN 877033-93-7  
DICTIONARY FILE UPDATES: 15 MAR 2006 HIGHEST RN 877033-93-7

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conducting SmartSELECT searches.

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\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMI  
for details.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

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FILE LAST UPDATED: 15 Mar 2006 (20060315/ED)

Searcher : Shears 571-272-2528

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(FILE 'HOME' ENTERED AT 14:21:51 ON 17 MAR 2006)  
SET COST OFF

FILE 'REGISTRY' ENTERED AT 14:21:56 ON 17 MAR 2006

E SPM 4757/CN  
L1 2 SEA ABB=ON PLU=ON ("SPM 5185"/CN OR "SPM 5186"/CN)  
D CN  
D CN 2  
E "SP/W 4757"/CN 5  
L2 2 SEA ABB=ON PLU=ON "SP/W 3672"/CN OR "SP/W 6373"/CN  
L3 4 SEA ABB=ON PLU=ON L1 OR L2

FILE 'REGISTRY' ENTERED AT 14:24:10 ON 17 MAR 2006  
D L3 1-4 IDE

FILE 'CAPLUS' ENTERED AT 14:24:11 ON 17 MAR 2006

L\*\*\* DEL 31 S SPM4757 OR SPM5186 OR SPM5185 OR SPM3672 OR SPM6373 OR (S  
L\*\*\* DEL 1 S L4 AND (GASTROINTESTIN? OR ULCER? OR GASTR? INTESTIN?)  
L\*\*\* DEL 0 S SPW4757  
L\*\*\* DEL 3 S SPW5186  
D KWIC  
L\*\*\* DEL 31 S SPM4757 OR SPM5186 OR SPM5185 OR SPM3672 OR SPM6373 OR SP  
L\*\*\* DEL 1 S L4 AND (GASTROINTESTIN? OR ULCER? OR GASTR? INTESTIN?)  
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FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,  
JICST-EPLUS, JAPIO' ENTERED AT 14:27:26 ON 17 MAR 2006

L\*\*\* DEL 0 S L5

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SPM3672 OR SPM6373 OR SPW4757 OR SPW5186 OR SPW3672 OR  
SPW6373 OR (SPM OR SP(W)W OR SPW) (W) (4757 OR 5186 OR 5185  
OR 3672 OR 6373)  
L5 3 SEA ABB=ON PLU=ON L4 AND (GASTROINTESTIN? OR ULCER? OR  
GASTR? INTESTIN?)  
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D 1-3 .BEVSTR

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,  
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L6 0 SEA ABB=ON PLU=ON L5

FILE 'CAPLUS' ENTERED AT 14:30:07 ON 17 MAR 2006

L7 9 SEA ABB=ON PLU=ON (NITRATOPIVAL? OR NITRATO PIVAL?) (S) EST  
ER  
L8 0 SEA ABB=ON PLU=ON L7 AND (GASTROINTESTIN? OR ULCER? OR  
GASTR? INTESTIN?)  
D QUE

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,  
JICST-EPLUS, JAPIO' ENTERED AT 14:31:13 ON 17 MAR 2006

L9 59 SEA ABB=ON PLU=ON L7  
L10 56 SEA ABB=ON PLU=ON L7(S) (ET OR ETHYL)  
L11 4 SEA ABB=ON PLU=ON L10 AND (GASTROINTESTIN? OR ULCER? OR  
GASTR? INTESTIN?)

Searcher : Shears 571-272-2528

10/760672

L12 4 DUP REM L11 (0 DUPLICATES REMOVED)  
D 1-4 IBIB ABS

FILE 'HOME' ENTERED AT 14:32:20 ON 17 MAR 2006  
D COST  
D QUE L3

FILE 'REGISTRY' ENTERED AT 14:36:13 ON 17 MAR 2006  
E "SP/W 4757"/CN 5  
E SPW 4757/CN 5  
E SPM 4757/CN 5  
E "SPM-4757"/CN 5

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 15 MAR 2006 HIGHEST RN 877033-93-7  
DICTIONARY FILE UPDATES: 15 MAR 2006 HIGHEST RN 877033-93-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMI for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

FILE CAPLUS

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Searcher : Shears 571-272-2528

10/760672

strictly prohibited.

FILE COVERS 1907 - 17 Mar 2006 VOL 144 ISS 13  
FILE LAST UPDATED: 16 Mar 2006 (20060316/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply  
They are available for your review at:

<http://www.cas.org/infopolicy.html>

FILE MEDLINE

FILE LAST UPDATED: 16 MAR 2006 (20060316/UP). FILE COVERS 1950 TO DA

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details  
on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).  
See also:

<http://www.nlm.nih.gov/mesh/>  
[http://www.nlm.nih.gov/pubs/techbull/nd04/nd04\\_mesh.html](http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html)  
[http://www.nlm.nih.gov/pubs/techbull/nd05/nd05\\_med\\_data\\_changes.ht](http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.ht)  
[http://www.nlm.nih.gov/pubs/techbull/nd05/nd05\\_2006\\_MeSH.html](http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html)

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the  
MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT  
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 15 March 2006 (20060315/ED)

FILE EMBASE

FILE COVERS 1974 TO 17 Mar 2006 (20060317/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

The updates on February 20 and 24, 2006, were incomplete due to a  
technical problem. The problem has been corrected, and the missing  
records were included in the update on March 3, 2006. If you  
received SDI results from the original updates on February 20 and 24,  
you will automatically be credited for the update that was rerun on  
March 3.

If you have any questions, please contact your STN Service Center.

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

FILE WPIDS

FILE LAST UPDATED: 15 MAR 2006 <20060315/UP>

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10/760672

MOST RECENT DERWENT UPDATE: 200618 <200618/DW>  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf)

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE  
<http://scientific.thomson.com/support/patents/coverage/latestupdates/>

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER  
GUIDES, PLEASE VISIT:  
<http://scientific.thomson.com/support/products/dwpi/>

>>> FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT  
DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX  
FIRST VIEW - FILE WPIFV.  
FOR FURTHER DETAILS:  
<http://scientific.thomson.com/support/products/dwpifv/>

>>> THE CPI AND EPI MANUAL CODES WILL BE REVISED FROM UPDATE 200601.  
PLEASE CHECK:  
<http://scientific.thomson.com/support/patents/dwpieref/reftools/classif>

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE  
[http://www.stn-international.de/stndatabases/details/ipc\\_reform.html](http://www.stn-international.de/stndatabases/details/ipc_reform.html)  
<http://scientific.thomson.com/media/scpdf/ipcrdwpf.pdf> <<<

FILE CONFSCI  
FILE COVERS 1973 TO 25 May 2005 (20050525/ED)

CSA has suspended updates until further notice.

FILE SCISEARCH

FILE COVERS 1974 TO 16 Mar 2006 (20060316/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE JICST-EPLUS  
FILE COVERS 1985 TO 13 MAR 2006 (20060313/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED  
TERM (/CT) THESAURUS RELOAD.

FILE JAPIO  
FILE COVERS APR 1973 TO OCTOBER 27, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.  
USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER  
DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION  
ABOUT THE IPC REFORM <<<